

U.S. Army Center for Health Promotion and Preventive Medicine

A SOLDIER'S GUIDE TO STAYING HEALTHY IN TEMPERATE SOUTH AMERICA

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INTRODUCTION

This country-specific guide should be used in conjunction with [GTA 08-05-062, Guide to Staying Healthy](#), and is intended to provide information that can help reduce your risk of Disease and Non-battle Injuries (DNBI) when deployed. This health threat and countermeasure information is based on the most current data available from U.S. Department of Defense medical agencies at the time of production. In addition to the information in this guide, you should also receive force health protection, health threat, and preventive medicine countermeasures training/briefings prior to and, as required, throughout the length of your deployment.

TEMPERATURE SOUTH AMERICA OVERVIEW

Temperate South America includes three countries: [Argentina](#), [Chile](#), and [Uruguay](#). These three countries make up the southern horn of South America. The Andes Mountains run through Chile and Argentina, which are on the western part of the continent. The Andes Mountains have high, rugged elevations. These elevations are separated from low coastal mountains by a central valley. Many of the Andes peaks are snow-capped year-round. The northeastern part of the area is lowlands that are composed of fertile, rolling plains and low hills. In the southeast, flat to rolling plateaus rise to elevations of 5,000 feet above sea level. The borders of the region include the Atlantic Ocean in the east; the Southern Ocean in the south; the Pacific Ocean in the west; and Brazil, Paraguay, Bolivia, and Peru in the north. The elevation ranges from 131 feet below sea level on the Peninsula Valdes in Argentina to 22,834 feet above sea level in the Argentinean Andes. Temperate South America has a varied climate. The northern Chilean desert is one of the driest regions in the world. Northeastern lowland areas range from subtropical to temperate, while areas of the south range from arid to sub-Arctic. Summer is from December through February with seasonal highs of 110° F, while winter is from June through August with seasonal lows of 0° F. The highlands and mountainous areas have the cooler temperatures. Yearly rainfall varies from nearly nonexistent in northern Chile to 36-50 inches in the northern plains and 102-200 inches in the south, where westerly winds bring gales, heavy rainfall and frequent storms year-round. The Andes region has severe earthquakes and active volcanoes, and Chile is subject to tsunamis.

TEMPERATURE SOUTH AMERICA RISK ASSESSMENT

Based on a combination of all major infectious diseases that occur in a country, an overall country risk level is assigned as low, intermediate, high, or highest risk. Argentina is INTERMEDIATE RISK for infectious diseases, and Chile and Uruguay are LOW RISK for infectious diseases. Environmental contamination may present short- and long- term health risks to personnel deployed to the area.

The greatest short-term health risks are associated with insects, water contaminated with raw sewage or runoff containing fecal pathogens, industrial waste, or agricultural chemicals and air pollution. The greatest long-term health risks are associated with sexually transmitted diseases and chronic ingestion of inorganic arsenic in the northern provinces.

This guide discusses specific disease and environmental risks and ways to eliminate or lessen those risks.

DISEASES OF GREATEST RISK

Bacterial diarrhea (travelers' diarrhea) is a food- or water-borne disease. It is contracted when you eat food or drink water, ice or milk contaminated with the disease. The risk of contracting diarrhea occurs year-round.

[Hepatitis A](#) is a food-or water-borne disease that can make you sick for a month or more. This disease is contracted when you eat food or drink water, ice or milk contaminated with the disease. The risk of contracting hepatitis occurs year-round. Receiving the hepatitis A vaccine can eliminate the risk of contracting hepatitis A.

[Leptospirosis](#) is a serious illness contracted when you come into contact with water that is contaminated with the bacteria that causes the disease. The risk for contracting leptospirosis is year- round, and the risk is present in all areas. The risk of acquiring leptospirosis can be greatly reduced by not swimming or wading in water that might be contaminated with animal urine.

<http://www.who.int/inf-fs/en/fact264.html>

Information pertaining to how to prevent these and other diseases can be found under each disease category.

VECTOR-BORNE DISEASES OF POTENTIAL RISK

DISEASE RISKS

Diseases of potential risk that are caused by insect bites exist. In Argentina, these diseases include [dengue fever](#), [eastern equine encephalitis](#), [leishmaniasis](#), [malaria](#), [St. Louis encephalitis](#) and [Venezuelan equine encephalitis](#). There may be other diseases spread by various insects and ticks in the region. Your local medical authority will determine if these diseases or other vector-borne diseases are a threat in your specific location and provide appropriate countermeasures.

PREVENTION

When deployed to this region, use the [DOD Insect Repellent System](#) detailed in [GTA 08-05-062](#) to reduce your risk of acquiring a vector-borne disease.

Wear [permethrin](#)-treated uniforms with trousers tucked into boots, sleeves rolled down, and undershirt tucked into trousers. Wear N-diethyl-meta-toluamide (DEET) on exposed skin.

When deployed to this region, [sleep under a permethrin-treated bed net](#) to repel insects and further reduce risks of vector-borne diseases.

When using both DEET and sunscreen products, apply sunscreen to the skin first so it does not interfere with the effectiveness of the DEET. After 30 minutes to an hour, apply the DEET. This allows the sunscreen to penetrate and bind to the skin first.

Take your malaria prevention pills when directed to do so. This is CRITICAL. Normally, you will begin taking medication prior to arriving in the area, while in the area, and after returning home.

FOOD-BORNE AND WATER-BORNE DISEASES

DISEASE RISKS

Sanitation varies with location, but typically is well below U.S. standards. Local food and water sources (including ice) may be contaminated with bacteria, parasites, and viruses to which most U.S. service members have little or no natural immunity. In addition to bacterial diarrhea and hepatitis A, other food- and water-borne diseases of potential military importance to forces deployed to this region include [brucellosis](#), protozoal diarrhea, [cholera](#), hepatitis E, typhoid/paratyphoid and [neurotoxic and paralytic shellfish poisoning](#).

PREVENTION

Assume all non-approved food, ice, and water is contaminated. You should not drink local tap water, fountain drinks or ice cubes. Do not eat any food or drink any water or beverages (including bottled water) that have not been approved by the U.S. military as they may be contaminated. Even a one-time consumption of these foods or water may cause severe illness. See [GTA 08-05-062](#) for appropriate countermeasures.

WATER-CONTACT DISEASES AND SKIN DISEASES

In order to protect yourself from leptospirosis and other infections you can catch from coming into contact with water—

Do not swim or wade in water that has not been treated with chlorine.

Wear protective clothing or footwear if you are exposed to contaminated water or soil.

Maintain clean, dry skin to prevent skin irritations and infections, such as athlete's foot and ringworm. These are common medical threats during any deployment and are commonly caused by fungi.

See [GTA 08-05-062](#) for additional countermeasure information.

ANIMAL-CONTACT DISEASES

DISEASE RISKS

Diseases contracted through contact with animals that are of potential military significance include [anthrax](#), [Argentinian hemorrhagic fever](#) (Junin), [hantavirus pulmonary syndrome](#), [Q fever](#) and [rabies](#). They are serious illnesses that you contract from being bitten by an animal carrying the disease (rabies), touching or eating infected animals (anthrax), or inhaling dust that contains the organisms that cause the disease (Argentinian hemorrhagic fever, hantavirus pulmonary syndrome, Q fever, and anthrax).

Cats, dogs and bats are the main carriers of rabies, but any animal can be infected with rabies. Cattle, sheep and goats are the main carriers of anthrax and Q fever. Rodents are the main carriers of Argentinian hemorrhagic fever and hantavirus pulmonary syndrome.

PREVENTION

Avoid contact with animals.

Do not feed, handle, or keep wild or unknown domestic animals.

Keep living quarters free of rodents, and stay clear of buildings infested with rodents.

If bitten, seek medical attention immediately.

If deployed, always check dug-in fighting positions for potentially dangerous animals.

DANGEROUS ANIMALS AND PLANTS

RISKS

At least 10 species of highly poisonous snakes, including vipers, rattlesnakes, and coral snakes, live in the region. Some of these snakes are well camouflaged and will strike with little provocation. Consider any snake encountered as poisonous, and do not handle.

Spiders, scorpions, and centipedes in the region can grow quite large, and have painful bites and stings that cause swelling, local tenderness, or necrotic lesions (dead tissue). The sting of one scorpion and bites from some spiders can be deadly.

Some caterpillars have venomous spines that can cause skin or eye irritation.

Some plants have thorns, stinging hairs, or toxic resins that can puncture the skin or introduce poison into the skin causing skin irritation, rashes or infections. Contact with the smoke from the burning of harmful plants can also cause skin rashes and damage to your lungs. Some plants may cause systemic poisoning if leaves, berries, flowers, or other plant parts are chewed or swallowed.

PREVENTION

Seek immediate medical attention if bitten or stung; untreated snakebites may cause serious illness or death within 1 hour.

If possible, avoid sleeping on the ground. Shake out boots, bedding, and clothing prior to use, and never walk barefoot.

Avoid skin contact with plants when tactically feasible. Clean your skin and clothing by washing with soap and water after contact with harmful plants.

CONTAGIOUS AND SEXUALLY TRANSMITTED DISEASES

There is a risk of being exposed to the bacteria that causes [tuberculosis](#) (TB). Breathing in the bacteria that someone coughed or sneezed into the air spreads TB. Being exposed to the bacteria will cause a positive skin test even if you do not become sick. If you have a positive skin test, you may still be treated even if you have no symptoms. [Sexually transmitted diseases](#), such as [gonorrhea](#), [chlamydia](#), [human immunodeficiency virus \(HIV\)](#)/acquired immune deficiency syndrome ([AIDS](#)) and [hepatitis B](#), occur throughout the region. Though the immediate impact of HIV/AIDS and hepatitis B on an operation is limited, the long-term impact on your individual health is great. Those deployed should see [GTA 08-05-062](#) for appropriate countermeasures and guidance regarding the hepatitis B vaccine. **Anyone deployed to the region should not have unprotected sex and should not share needles.**

HOT AND COLD WEATHER INJURIES

Temperature extremes in this region may impact military operations. Heat injuries are possible, especially in individuals not acclimatized to warmer temperatures. Heat injury is most likely to occur during the early phase of deployment; acclimatization is critical. The effects of cold weather are more severe in high mountainous areas due to reduced oxygen and lower air pressure. When deploying to the mountainous regions of Temperate South America, check with your unit on the requirement for packing the extended cold weather clothing system. See [GTA 08-05-062](#) for appropriate countermeasures.

TOXIC INDUSTRIAL CHEMICALS AND MATERIALS

When deployed, you may face health risks from agricultural and industrial chemicals and materials as a result of activities by terrorists or warring parties; accidents related to improper design, maintenance, or operation of indigenous industrial facilities; inadvertent exposure to toxic waste materials in the environment; local fertilizer or pesticide misuse; or improper handling or disposal of hazardous material with which our own forces deploy. The degree of health risks depends upon many factors. Consult your medical authority for additional information.

FIELD SANITATION TEAM

Each company-sized unit has a Field Sanitation Team (FST) whose members are trained (40-hour course) and fully equipped IAW [AR 40-5](#), [FM 4-25.12](#), and [FORSCOM REG 700-2](#). Know who the members of your FST are, and know how they can assist in preventing medical threats to your health. Become familiar with FST equipment and training.

HIGH ELEVATIONS

Military operations occurring at elevations over 6,000 feet can seriously affect unit and individual effectiveness. Serious illness or death can result if you increase your

elevation rapidly without allowing for acclimatization. Remain well hydrated; individual water requirements are greater at higher altitudes.

When deployed to high mountain areas, look for the common symptoms of mountain sickness: headache, nausea, vomiting, dizziness, fatigue, irritability, and coughing. Seek medical attention immediately if you experience any of these symptoms.

Pyridostigmine bromide tablets may increase the chance of dizziness or fainting during the first 24 hours at high altitude if you are not acclimatized.

Lower oxygen levels at high altitudes ("thin air") combined with the heavier work requirements when wearing mission-oriented protective posture (MOPP) gear can increase your risk of high altitude illnesses. When wearing MOPP gear at higher altitudes, you may require more time and concentration to perform assigned tasks.

For appropriate countermeasures during high altitude operations, see [GTA 08-05-062](#) and [GTA 08-05-060, A Soldier's Guide to Staying Healthy at High Elevations](#).

HEARING PROTECTION

It is essential that you use properly fitted [hearing protection](#) during military operations. Exposure to high-intensity noise may cause hearing loss that can adversely affect your combat effectiveness and individual readiness. Good hearing is essential to mission success. If you are a dismounted soldier, the [Combat Arms Earplug](#) (NSN 6515-01-466-2710) will protect you from the impact noise of weapons fire while only slightly interfering with voice communications and detection of combat sounds such as vehicle noise, footfalls in leaves, and the closing of a rifle bolt. While not as effective as the Combat Arms Earplug in preserving your ability to hear important mission-related sounds, noise muffs or standard earplugs are very effective at preventing noise-induced injury. If you are a member of vehicle or helicopter crews, your combat vehicle crew or aircrew helmets have built-in hearing protectors.

ORAL HEALTH

[Dental disease](#) is a common problem during deployments due to the challenge of maintaining good oral hygiene. You should deploy with toothbrush, dental floss, and fluoride toothpaste. Daily flossing and twice daily brushing of teeth is the best way to ensure prevention of periodontal disease and to decrease your risk of problems such as trench mouth and tooth decay. In difficult tactical environments, teeth should be brushed at least once a day. Seek medical attention immediately at the onset of any dental problems.

PRE-DEPLOYMENT HEALTH INFORMATION

- [Complete the Pre-Deployment Health Assessment \(DD FORM 2795\)](#) to assess your state of health before deployment and to assist health care providers in identifying your medical needs and providing present and future medical care to you.

You will not have access to your health care record during the deployment. The Adult Preventive and Chronic Care Flowsheet ([DD FORM 2766](#)) will be used as your deployment health record. This document will include information on all your immunizations, any medications you are currently taking, and any ongoing medical problems that you may have. When you go through readiness processing, ensure that all appropriate information is documented on your DD FORM 2766. When you return home, this information will be placed in your regular health record.

INFORMATION ABOUT YOUR HEALTH CARE WHILE DEPLOYED

It is important that you know where to seek health care while deployed. This may or may not be through the same channels as your home station. Ask your chain of command for more information.

While deployed, you must maintain your health and seek care whenever an illness or injury threatens your ability to complete your tasks. Your unit is depending on you. It is always better to seek care early so that your problems can be documented appropriately and taken care of immediately. Early treatment also helps to prevent the spread of disease to others in your unit.

[POST-DEPLOYMENT HEALTH INFORMATION](#)

[Complete the Post-Deployment Health Assessment \(DD FORM 2796\)](#) to assess your state of health after deployment and to assist health care providers in identifying your medical needs and providing present and future medical care to you.

If you become sick after you return home, tell your physician that you were deployed.

Complete malaria medications as directed, and receive follow-on medical care/tests as directed.

Contact your Preventive Medicine or Medical Support Unit for more information.



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